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09/675,357	09/29/2000	Alex P. Yung	NCRC-0028-US (9433)	1117

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ART UNIT	PAPER NUMBER
2195	

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Please find below and/or attached an Office communication concerning this application or proceeding.

<table>
<tr><td rowspan="2">Office Action Summary</td><td>Application No.</td><td>Applicant(s)</td><td></td></tr>
<tr><td>09/675,357</td><td>YUNG ET AL.</td><td></td></tr>
<tr><td></td><td>Examiner</td><td>Art Unit</td><td></td></tr>
<tr><td></td><td>Syed J Ali</td><td>2195</td><td></td></tr>
</table>

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>03 January 2005</u>.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>2-4,6-22,24,25,28-34 and 37-55</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>2-4,6-22,24,25,28-34 and 37-55</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

1.   This office action is in response to the amendment filed January 3, 2005. Claims 2-4, 6-22, 24-25, 28-34, and 37-55 are presented for examination.

2.   The text of those sections of Title 35, U.S. code not included in this office action can be found in a prior office action.

Claim Rejections - 35 USC § 103

3.   **Claims 2-4, 6-22, 24-25, 28-34, and 37-55 rejected under 35 U.S.C. 103(a) as being unpatentable over Swami et al. (USPN 5,845,113) (hereinafter Swami) in view of Blair (USPN 5,369,764).**

4.   As per claim 7, Swami teaches the invention as claimed, including a method of performing parallel data operations upon data in a database, comprising:

receiving a data transaction request in a client system (col. 6 lines 42-50);

executing a plurality of multi-phase parallel tasks in response to the request to perform the data operations upon the data in the database (col. 6 line 51 - col. 7 line 33), wherein executing the multi-phase parallel tasks comprises executing each of the parallel tasks in plural phases (col. 7 lines 34-49); and

each parallel task providing an indication of whether the task is to be re-invoked in the next phase (col. 4 lines 48-51; col. 8 lines 17-55).

5.   Blair teaches the invention as claimed, including tasks providing a code to indicate the need to be re-invoked (col. 5 line 53 - col. 6 line 11).

6.   It would have been obvious to one of ordinary skill in the art to combine Swami and Blair since the corruption or loss of data, particularly within network environments is a well-known concern in protecting data integrity. As Swami is a distributed database system that utilizes such a network model (col. 6 lines 14-16), it would have been obvious to one of ordinary skill in the art to take precautions against such a loss of data. Blair implements a common technique of protecting data, i.e. checkpoint restarting of programs (Abstract). Blair teaches creating rollback points at various points of a programs execution such that a "snapshot" is available at particular points in time (col. 5 line 53 - col. 6 line 11). If a program or task abnormally terminates or otherwise fails, Blair teaches restarting the program by issuing a code to indicate such (col. 5 line 53 - col. 6 line 11).

7.   As per claim 2, Swami teaches the invention as claimed, including the method of claim 7, wherein receiving a data transaction request comprises receiving a request for loading data into the database (col. 6 lines 42-50).

8.   As per claim 3, Swami teaches the invention as claimed, including the method of claim 7, wherein receiving a data transaction request comprises receiving a request to perform a data transformation operation upon the data in the database (col. 6 line 42 - col. 7 line 33).

9.   As per claim 4, Swami teaches the invention as claimed, including the method of claim 3, wherein receiving a request to perform the data transformation operation comprises receiving a request to perform one of a data selection operation, a data validation operation, a data cleansing operation, and a data query operation (col. 6 line 42 - col. 7 line 33).

10.   As per claim 6, Swami teaches the invention as claimed, including the method of claim 7, comprising executing a first parallel task in a first number of phases and a second parallel task in a second, different number of phases (col. 7 line 50 - col. 8 line 4).

11.   As per claim 8, Swami teaches the invention as claimed, including the method of claim 7, wherein providing a task coordinator directs the process of re-invoking tasks (col. 5 line 66 - col. 6 line 2).

12.   Blair teaches the invention as claimed, including tasks providing the code indicating the need to be re-invoked (col. 5 line 53 - col. 6 line 11).

13.   As per claim 9, Swami teaches the invention as claimed, including the method of claim 8, wherein a first indication tells the task coordinator to invoke a component in the next phase (col. 8 lines 17-55).

14.   Blair teaches the invention as claimed, including tasks providing the code indicating the need to be re-invoked (col. 5 line 53 - col. 6 line 11).

15.   As per claim 10, Swami teaches the invention as claimed, including the method of claim

8, wherein a second indication tells the task not to invoke a component in the next phase (col. 8

lines 17-55).

16.   Blair teaches the invention as claimed, including tasks providing the code indicating the

need to be re-invoked (col. 5 line 53 - col. 6 line 11).

17.   As per claim 11, Swami teaches the invention as claimed, including a method of

performing parallel data operations upon data in a database, comprising:

       receiving a data transaction request in a client system (col. 6 lines 42-50);

       executing a plurality of multi-phase parallel tasks in response to the request to perform

the data operations upon the data in the database (col. 6 line 51 - col. 7 line 33);

       analyzing the transaction request (col. 6 line 51 - col. 7 line 33);

       creating a task plan in response to the transaction request (col. 6 line 51 - col. 7 line 33);

       implementing the task plan in a multi-phase organization (col. 6 line 51 - col. 7 line 33),

wherein the plurality of multi-phase parallel tasks are executed to implement the task plan (***);

       executing a plurality of tasks in parallel to implement the task plan (col. 6 line 51 - col. 7

line 33);

       determining whether an additional phase is required to execute the tasks (col. 4 lines 48-

51; col. 8 lines 17-55); and

       scheduling an additional phase in response to the determination that an additional phase

is required (col. 4 lines 48-51; col. 8 lines 17-55).

18.   Blair teaches the invention as claimed, including tasks providing a code to indicate the

need to be re-invoked (col. 5 line 53 - col. 6 line 11).

19.   As per claim 12, Swami teaches the invention as claimed, including the method of claim

11, wherein implementing the task plan comprises creating a job script (col. 6 line 51 - col. 7 line

33).

20.   As per claim 13, Swami teaches the invention as claimed, including the method of claim

11, wherein implementing the task plan comprises:

       translating the task plan (col. 8 line 56 - col. 9 line 2; col. 9 lines 55-67; col. 10 lines 13-

34);

       selecting a plurality of software components corresponding to the parallel tasks (***) to

implement the translated task plan (col. 8 line 56 - col. 9 line 2; col. 9 lines 55-67; col. 10 lines

13-34);

       assigning a plurality of processes corresponding to the software components (col. 6 line

51 - col. 7 line 33); and

       creating a communications channel to allow for communications between the processes

(col. 6 line 51 - col. 7 line 33).

21.   As per claim 14, Swami teaches the invention as claimed, including the method of claim

13, wherein selecting the plurality of software components to implement the translated task plan

comprises selecting the plurality of software components to perform at least one of a data

extraction operation, a data transformation operation, and a data loading operation (col. 6 lines 42-50).

22.   As per claim 15, Swami teaches the invention as claimed, including an apparatus, comprising:

a user interface (col. 6 lines 42-50);

a processor coupled with the user interface, wherein the processor receives a data transaction request from the user interface (col. 6 lines 42-50); and

a controller coupled with the processor, wherein the controller performs a plurality of tasks in parallel based upon instructions received from the processor, each tasks performed in a plurality of phases (col. 6 line 51 - col. 7 line 49),

each task providing an indication of whether the task is to be re-invoked in a next phase (col. 4 lines 48-51; col. 8 lines 17-55).

23.   Blair teaches the invention as claimed, including tasks providing a code to indicate the need to be re-invoked (col. 5 line 53 - col. 6 line 11).

24.   As per claim 16, Swami teaches the invention as claimed, including the apparatus of claim 15, wherein the processor generates a task plan in response to the data transaction request (col. 6 line 51 - col. 7 line 33).

25. As per claim 17, Swami teaches the invention as claimed, including the apparatus of claim 16, wherein the controller comprises a task coordinator to execute the task plan (col. 5 line 66 - col. 6 line 2).

26. As per claim 18, Swami teaches the invention as claimed, including the apparatus of claim 16, wherein the controller further comprises a plurality of components to implement the task plan in parallel (col. 6 line 51 - col. 7 line 33).

27. As per claim 19, Swami teaches the invention as claimed, including the apparatus of claim 18, further comprising a communications interface for enabling communications between the components (col. 6 lines 14-16).

28. As per claim 20, Swami teaches the invention as claimed, including the apparatus of claim 18, wherein the controller further comprises a storage unit for storing methods and functions to execute the task plan (col. 5 line 52 - col. 6 line 13).

29. As per claim 21, Swami teaches the invention as claimed, including the apparatus of claim 15, wherein the controller performs a number of tasks in parallel based upon instructions received from the processor, each task performed in a plurality of phases further comprises the controller performing the tasks in a sequence of multiple process steps (col. 6 lines 25-31; col. 7 lines 24-49).

30.   As per claim 22, Swami teaches the invention as claimed, including a system, comprising:

    a database system (col. 5 line 52 - col. 6 line 13);

    a network (col. 6 lines 14-16); and

    a client system separate from the database system and coupled to the database system (col. 5 lines 52-60; col. 6 lines 14-16; col. 6 lines 42-50).

31.   Blair teaches the invention as claimed, including the client system establishing plural sessions with the database system (col. 5 line 53 - col. 6 line 11) to implement a plurality of data operations upon the database system in parallel (col. 5 line 53 - col. 6 line 11).

32.   It is noted that Blair does not specifically address the use of a network. However, the model used by Blair is easily implemented in a networked environment, as the general architecture is presented essentially as a distributed system. Additionally, executing a plurality of data operations upon the database system in parallel is also taught by Swami (col. 6 line 51 - col. 7 line 33).

33.   As per claim 24, Swami teaches the invention as claimed, including the system of claim 22, wherein the database is a parallel database system (col. 5 line 52 - col. 6 line 13).

34.   As per claim 25, Swami teaches the invention as claimed, including the system of claim 22, wherein the client system comprises:

    a processor to receive a data transaction request (col. 5 line 52 - col. 6 line 13);

a plurality of operators to perform parallel data operations in response to the data

transaction request (col. 5 line 52 - col. 6 line 13);

an operator interface coupled to the operators, wherein the operator interface allows

communications between the operators (col. 5 line 52 - col. 6 line 16).

35.   As per claim 28, Swami teaches the invention as claimed, including an article comprising

at least one storage medium containing instructions that when executed cause a client system to:

receive a data transaction request (col. 6 lines 42-50);

execute a plurality of parallel tasks in the plural sessions to perform data operations upon

the data in the database system over a network connection (col. 6 line 51 - col. 7 line 33),

wherein the client system is separate from the database system (col. 6 lines 14-16; col. 6 lines

42-50).

36.   Blair teaches the invention as claimed, including establishing plural sessions with a

database system in response to the request (col. 5 line 53 - col. 6 line 11).

37.   As per claim 29, Swami teaches the invention as claimed, including the article of claim

28, wherein the instructions when executed cause the client system to execute each of the parallel

tasks in plural phases (col. 7 lines 34-49).

38.   As per claim 30, Swami teaches the invention as claimed, including the article of claim

29, wherein the instruction when executed cause the client system to execute a first parallel task

in a first number of phases and a second parallel task in a second, different number of phases (col. 7 line 50 - col. 8 line 4).

39.   As per claim 31, Swami teaches the invention as claimed, including the article of claim 29, wherein the instructions when executed cause each parallel task providing an indication of whether the task is to be re-invoked in the next phase (col. 4 lines 48-51; col. 8 lines 17-55).

40.   Blair teaches the invention as claimed, including tasks providing a code to indicate the need to be re-invoked (col. 5 line 53 - col. 6 line 11).

As per claim 32, Blair teaches the invention as claimed, including the article of claim 31, wherein the instructions when executed cause a task coordinator to direct the process of re-invoking tasks (col. 5 line 66 - col. 6 line 2).

41.   Blair teaches the invention as claimed, including tasks providing the code indicating the need to be re-invoked (col. 5 line 53 - col. 6 line 11).

42.   As per claim 33, Blair teaches the invention as claimed, including the article of claim 32, wherein a first indication tells the task coordinator to invoke a component in the next phase (col. 8 lines 17-55).

43.   Blair teaches the invention as claimed, including tasks providing the code indicating the need to be re-invoked (col. 5 line 53 - col. 6 line 11).

44.   As per claim 34, Blair teaches the invention as claimed, including the article of claim 32,

wherein a first indication tells the task coordinator to not invoke a component in the next phase

(col. 8 lines 17-55).

45.   Blair teaches the invention as claimed, including tasks providing the code indicating the

need to be re-invoked (col. 5 line 53 - col. 6 line 11).

46.   As per claim 38, Swami teaches the invention as claimed, including a method of

performing parallel data operations upon data in a database, comprising:

        receiving a data transaction request (col. 6 lines 42-50); and

        executing a plurality of synchronized multi-phase parallel tasks in response to the request

to perform the data operations upon the data in the database (col. 6 line 51 - col. 7 line 33),

        wherein executing the multi-phase parallel tasks comprises executing each of the parallel

tasks in phases (col. 7 lines 34-49); and

        each parallel task providing an indication of whether the task is to be re-invoked in the

next phase (col. 4 lines 48-51; col. 8 lines 17-55).

47.   Blair teaches the invention as claimed, including tasks providing a code to indicate the

need to be re-invoked (col. 5 line 53 - col. 6 line 11).

48.   As per claim 37, Swami teaches the invention as claimed, including the method of claim

38, comprising executing a first parallel task in a first number of phases and a second parallel

task in a second, different number of phases (col. 7 line 50 - col. 8 line 4).

49.   As per claim 39, Swami teaches the invention as claimed, including the method of claim 7, wherein providing a task coordinator directs the process of re-invoking tasks (col. 5 line 66 - col. 6 line 2).

50.   Blair teaches the invention as claimed, including tasks providing the code indicating the need to be re-invoked (col. 5 line 53 - col. 6 line 11).

51.   As per claim 40, Swami teaches the invention as claimed, including the method of claim 8, wherein a first indication tells the task coordinator to invoke a component in the next phase (col. 8 lines 17-55).

52.   Blair teaches the invention as claimed, including tasks providing the code indicating the need to be re-invoked (col. 5 line 53 - col. 6 line 11).

53.   As per claim 41, Swami teaches the invention as claimed, including the method of claim 8, wherein a second indication tells the task not to invoke a component in the next phase (col. 8 lines 17-55).

54.   Blair teaches the invention as claimed, including tasks providing the code indicating the need to be re-invoked (col. 5 line 53 - col. 6 line 11).

55.   As per claim 42, Swami teaches the invention as claimed, including the method of claim 39, wherein the code synchronizes the operation of one or more components (col. 7 lines 34-49).

56.   As per claim 43, Swami teaches the invention as claimed, including the method of claim

7, wherein executing the plurality of multi-phase parallel tasks comprises:

executing at least first and second software components in parallel (col. 6 line 51 - col. 7

line 33);

each of the first and second software components performing one or more operations in a

first phase (col. 6 lines 34-49);

each of the first and second software components performing one or more operations in

the second phase (col. 6 lines 34-49); and

waiting for a message comprising the code from each of the first and second software

components prior to proceeding to a second phase (col. 7 lines 34-49).

57.   As per claim 44, Swami teaches the invention as claimed, including the method of claim

43, further comprising:

waiting for another message from each of the first and second software components prior

to proceeding to a third phase (col. 6 lines 34-49);

the first software component performing one or more operations in the third phase (col. 6

lines 34-49); and

the second software component being idle in the third phase (col. 3 lines 7-22).

58.   As per claim 45, Swami teaches the invention as claimed, including the method of claim

44, further comprising:

receiving a first message from the first software component indicating that the first

software component is to be re-invoked in the third phase (col. 6 lines 17-24; col. 7 lines 34-49);

and

receiving a second message from the second software component indicating that the

second component is not to be re-invoked in the third phase (col. 6 lines 17-24; col. 7 lines 34-

49).

59.   As per claim 46, Swami teaches the invention as claimed, including the apparatus of

claim 15, wherein the controller comprises at least first and second software components

executable in parallel to perform the plurality of tasks (col. 6 line 51 - col. 7 line 33);

wherein each of the first and second software components is executable to perform one or

more operations in a first phase (col. 6 lines 34-49); and

wherein each of the first and second software components is executable to perform one or

more operations in the second phase (col. 6 lines 34-49) ; and

waiting for a message comprising the code from each of the first and second software

components prior to proceeding to a second phase (col. 7 lines 34-49).

60.   As per claim 47, Swami teaches the invention as claimed, including the apparatus of

claim 46, wherein the controller is adapted to further wait for another message from each of the

first and second software components prior to proceeding to a third phase (col. 6 lines 34-49);

wherein the first software component is executable to perform one or more operations in

the third phase (col. 6 lines 34-49), and the second software component is idle in the third phase

(col. 3 lines 7-22).

61.   As per claim 48, Swami teaches the invention as claimed, including the apparatus of

claim 47, wherein the controller is adapted to further:

receive a message from the first software component indicating that the first software

component is to be re-invoked in the third phase (col. 6 lines 17-24; col. 7 lines 34-49); and

receive a second message from the second software component indicating that the second

component is not to be re-invoked in the third phase (col. 6 lines 17-24; col. 7 lines 34-49).

62.   As per claim 49, Swami teaches the invention as claimed, including the system of claim

22, wherein the client system is adapted to execute plural tasks in parallel, each of the plural

tasks executable in plural phases (col. 7 lines 34-49).

63.   As per claim 50, Swami teaches the invention as claimed, including the article of claim

29, wherein executing each of the parallel tasks in plural phases comprises:

executing at least first and second software components in parallel (col. 6 line 51 - col. 7

line 33);

each of the first and second software components performing one or more operations in a

first phase (col. 6 lines 34-49);

waiting for a message from each of the first and second software components prior to proceeding to a second phase (col. 6 lines 34-49); and

each of the first and second software components performing one or more operations in the second phase (col. 6 lines 34-49).

64.   As per claim 51, Swami teaches the invention as claimed, including the article of claim 50, wherein the instructions when executed cause the client system to further:

wait for another message from each of the first and second software components prior to proceeding to a third phase (col. 6 lines 34-49);

cause the first software component to perform one or more operations in the third phase (col. 6 lines 34-49); and

cause the second software component to be idle in the third phase (col. 3 lines 7-22).

65.   As per claim 52, Swami teaches the invention as claimed, including the article of claim 51, wherein the instructions when executed cause the client system to further:

receive a first message from the first software component indicating that the first software component is to be re-invoked in the third phase (col. 6 lines 17-24; col. 7 lines 34-49); and

receive a second message from the second software component indicating that the second software component is not to be re-invoked in the third phase (col. 6 lines 17-24; col. 7 lines 34-49).

66.   As per claim 53, Swami teaches the invention as claimed, including the method of claim

7, wherein executing the plurality of multi-phase parallel tasks includes executing a plurality of

checkpoint tasks in parallel, each checkpoint task having multiple phases, and each checkpoint

task to write data to storage to provide an indication of a current execution point (col. 7 lines 34-

49).

67.   As per claim 54, Swami teaches the invention as claimed, including the method of claim

7, wherein executing the plurality of multi-phase parallel tasks includes executing the plurality of

multi-phase tasks in parallel (col. 7 lines 34-49).

68.   As per claim 55, Swami teaches the invention as claimed, including the apparatus of

claim 15, wherein the plurality of tasks include a plurality of checkpoint tasks that are executed

in parallel, each checkpoint task having multiple phases, and each checkpoint task to write data

to storage to provide an indication of a current execution point (col. 7 lines 34-49).

Response to Arguments

69.   **Applicant's arguments filed January 3, 2005 have been fully considered but they are**

not persuasive.

70.   Applicant argues, "*[t]he tasks performed as depicted in Figure 2 of Swami are tasks*

performed during normal operation. On the other hand, Blair is referring to the aborting of a

program and restarting the program due to an error. The aborting and restarting of the

program in Blair does not constitute providing a code by a task to re-invoke the task in the next phase of multiple phases of the parallel task."

Applicant adds, *"[t]here was absolutely no need or desirability to provide the different tasks of Swami with the ability to send codes to determine whether the task is to be re-invoked for the next phase of a multi-phase parallel task."*

71.   Swami re-invokes tasks in a subsequent phase based on the length of an interval and the number of tuples requiring sorting (col. 4 lines 48-51). Pseudocode is provided that defines the length of an interval coupled with a "do" loop that continues to re-invoke tasks so long as the interval has not ended or there are no tuples remaining (col. 8 lines 17-55). The particulars of the programming of the database is left up to the developer (col. 8 lines 5-16), leaving Swami silent on the issue of how the coordinator (col. 5 line 66 - col. 6 line 2) is notified of the presence of additional tuples or receives a notification that there is insufficient time in the interval to complete an additional sort. However, Swami does note that the nodes of the database system communicate via message passing (col. 6 lines 17-24), so it is arguable that Swami does indeed teach a way that codes may be passed from the database system to the coordinator. However, Swami is silent on the particulars of the message passing.

While Blair is cited as showing how a task can generate a code that indicates a need to restart a task in response to an error condition (col. 5 lines 53 - col. 6 line 11), the code generation is applicable to any data processing system that has a need to restart tasks. With reference to Figure 2 of Swami, it is shown how a task consisting of an I/O phase, Sort phase, and Return phase is repeated within an interval. As discussed above, Swami does not explicitly indicate how a task coordinator is to know that it may be unable to complete all the phases of a

task in a particular interval.   There is a risk of the task overrunning its interval and not

completing properly.   If such an error were to occur, Blair provides an ideal remedy.

Additionally, the phases of the tasks in Swami could be coupled with the code generator of Blair

to provide the task coordinator with a status update at the end of each phase, such that tasks

would be less likely to overrun their intervals.   There is clearly a desirability to provide tasks

with the ability to send codes to determine whether the task is to be re-invoked in a next phase.

72.   Applicant argues, "*[t]here is no teaching or even remote suggestion here of a client

*system **separate from the database system and coupled to the database system over a network**.*"

73.   While Swami may not explicitly recite a client system separate from the database system

and coupled to the database system over a network, there are numerous passages in Swami that

indicate that a separate client system is contemplated and implicit within the disclosure, or at the

least, an obvious modification thereof. With reference to Fig. 1, the database system is shown,

wherein the plurality of machines are coupled to a network.   As is well known, a network is

typically coupled to other networks and particularly in database systems.   Users interact with

databases to retrieve specific data, by way of entering requests (col. 6 lines 42-44).   Client

systems coupled to database systems over networks are well-known architectures for

implementing database operations, and a plethora of prior art disclose such an architecture.

However, both the claimed invention and Swami are primarily directed to methods of performing

parallel data operations, not in how the user communicates a request.

Conclusion

74.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time

policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the mailing

date of this final action.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Syed J Ali whose telephone number is (571) 272-3769. The

examiner can normally be reached on Mon-Fri 8-5:30, 2nd Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Meng-Ai T An can be reached on (571) 272-3756. The fax phone number for the

organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent

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